

No.

200200030



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Western Plant Breeders

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

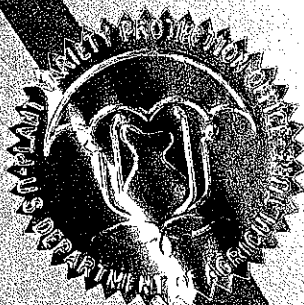
AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, DURUM

'Orita'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this fifth day of February, in the year two thousand two.



Attest:

Paul M. Jahl

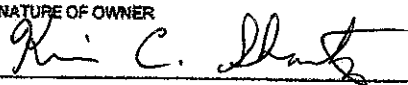
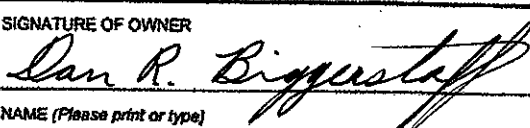
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Arthur C. Freeman

Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Western Plant Breeders, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME YU895-89		3. VARIETY NAME Orita									
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 8111 Timberline Drive Bozeman, MT 59718		5. TELEPHONE (Include area code) 406-587-1218		FOR OFFICIAL USE ONLY PVPO NUMBER 200200030									
6. FAX (Include area code) 406-586-8247		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Arizona									
9. DATE OF INCORPORATION Aug. 24, 1990		10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Kim C. Shantz Western Plant Breeders P.O. Box 6904 Yuma, AZ 85366		FILING AND EXAMINATION FEES: \$ 2705.00 DATE 11/28/2001 CERTIFICATION FEE: \$ 320.00 DATE 01/30/2002									
11. TELEPHONE (Include area code) 928-782-2749		12. FAX (Include area code) 928-782-2751		13. E-MAIL kshantz@westbred.com									
14. CROP KIND (Common Name) Durum Wheat		15. GENUS AND SPECIES NAME OF CROP Triticum durum		16. FAMILY NAME (Botanical) Poaceae									
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) <table border="0" style="width:100%;"> <tr> <td><input type="checkbox"/> a. Exhibit A. Origin and Breeding History of the Variety</td> <td><input type="checkbox"/> e. Statement of the Basis of the Owner's Ownership</td> </tr> <tr> <td><input type="checkbox"/> b. Exhibit B. Statement of Distinctness</td> <td><input type="checkbox"/> f. Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)</td> </tr> <tr> <td><input type="checkbox"/> c. Exhibit C. Objective Description of Variety</td> <td><input type="checkbox"/> g. Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)</td> </tr> <tr> <td><input type="checkbox"/> d. Exhibit D. Additional Description of the Variety (Optional)</td> <td></td> </tr> </table>				<input type="checkbox"/> a. Exhibit A. Origin and Breeding History of the Variety	<input type="checkbox"/> e. Statement of the Basis of the Owner's Ownership	<input type="checkbox"/> b. Exhibit B. Statement of Distinctness	<input type="checkbox"/> f. Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)	<input type="checkbox"/> c. Exhibit C. Objective Description of Variety	<input type="checkbox"/> g. Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)	<input type="checkbox"/> d. Exhibit D. Additional Description of the Variety (Optional)	
<input type="checkbox"/> a. Exhibit A. Origin and Breeding History of the Variety	<input type="checkbox"/> e. Statement of the Basis of the Owner's Ownership												
<input type="checkbox"/> b. Exhibit B. Statement of Distinctness	<input type="checkbox"/> f. Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)												
<input type="checkbox"/> c. Exhibit C. Objective Description of Variety	<input type="checkbox"/> g. Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)												
<input type="checkbox"/> d. Exhibit D. Additional Description of the Variety (Optional)													
19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED											
21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)											
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.											
SIGNATURE OF OWNER 		SIGNATURE OF OWNER 											
NAME (Please print or type) Kim C. Shantz		NAME (Please print or type) Dan R. Biggerstaff											
CAPACITY OR TITLE Wheat Breeder		DATE 10/23/2001		CAPACITY OR TITLE V.P./General Manager									
DATE 11/20/2001													

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

2002000301

EM

- 3a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 3b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 3c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 3d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 3e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 3f. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 3g. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 3h. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

4. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

5. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

December 4, 2000, United States of America
Certified Seed sold by Barkley Seed Company

6. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/isg/seed/is-ed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The assigned OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-6410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

‘Orita’
Durum Wheat

18.a. Exhibit A. Origin and Breeding History

‘Orita’ (Experimental designation ‘YU895-89’) is a durum wheat that originated from the cross ‘PH888-118-5’/‘WestBred 881’ made near Maricopa, AZ in March 1993. The breeding method used was single-head descent modified pedigree. The line ‘PH888-118-5’ was a F₅ selection with the pedigree ‘Turbo alpha-86 S-1’. ‘Turbo alpha-86 S-1’ was generated by crossing ‘WestBred Turbo’ onto male sterile F₂ plants in a population designated ‘SDP-85’. ‘SDP-85’ was generated by crossing Mexicali, Aldura, WestBred 881, Imperial, Lloyd, WestBred Laker, Mallard ‘S’, Swan ‘S’, Kingfisher, PH883-2, PH884-11, and PH884-2 onto male sterile F₂ plants from the cross of a male sterile plant in ‘Mexicali’ with a normal ‘Mexicali’ plant. The crosses were bulked together to grow the F₁ increase. The male sterile plant in ‘Mexicali’ was induced by Western Plant Breeders using a chemical mutagenic agent. The F₁ increase from which ‘Orita’ originated was grown in the field near Bozeman, MT in 1993 and the F₂ seed was harvested in September. The F₂ generation was grown near Maricopa, AZ in 1994. Individual spikes were selected and bulked together to grow the F₃ population near Bozeman, MT in 1994. Individual spikes were harvested in September 1994 and planted as spike rows near Maricopa, AZ in November 1994. The final selection was made in May 1995 in the F₄ row and was increased near Bozeman, Mt in the summer 9f 1995. The resulting F₅ plot was designated YU895-89 and harvested in bulk. Analysis of percent protein, protein quality (SDS Sedimentation test), semolina color and test weight were conducted prior to advancing YU895-89 to yield trials. The F₆ through F₁₀ were yield tested in Arizona and/or California from 1996 through 2000 in Western Plant Breeders’ trials. ‘Orita’ was selected for acceptable pasta making characteristics (See table 2) such as high protein, acceptable semolina color, good SDS sedimentation values as well as for acceptable agronomic traits. (See Table 1) Agronomic traits evaluated include grain yield, plant height, disease resistance, test weight, heading date and lodging resistance.

Thirty-two spikes were selected from F₈ plots at Yuma, AZ in 1998 and grown as spike rows near Bozeman, MT in 1998. Twenty-four spike row plots were grown near Brawley, CA in 1999. Twenty identical and uniform spike rows plots were selected and bulked together. This bulk was used to seed 4 acres near Bozeman, MT in 1999. This production was harvested in September 1999 and designated ‘Breeder’ seed. This seed was used to plant approximately 80 acres near Yuma, AZ in the December of 1999. The production was harvested in June of 2000 and designated ‘Foundation’ and ‘Registered’ seed. ‘Registered’ seed was down graded to ‘Certified’ and was first offered for sale on December 4, 2000.

'Orita'

A variant that is similar to 'Orita' but is 15cm-30cm taller occurs at a frequency of up to .1% (10 per 10,000). A white awn variant occurs at a frequency of up to .5%. (50 per 10,000) Otherwise, 'Orita' is a stable and uniform variety in appearance and performance across several generations (F7-F10) and growing conditions.

18.b. Exhibit B. Statement of Distinctness

'Orita' is most similar to the spring durum variety "Cortez; however, 'Orita' has yellow anthers while Cortez has purple anthers, 'Orita' has white auricles while Cortez has red auricles and the glume shoulders of 'Orita' are wanting while those of "Cortez" are apiculate.

The above comparison, along with the complete Objective Description (Exhibit C) show 'Orita' to be a novel variety of durum wheat.

Table 1. Agronomic characteristics of 'Orita' compared to check varieties in Western Plant Breeder's trials. (1996-2000), (Avg. of 15 locations)

Entry	Yield	T.W.	Protein	SDS	Semolina	Plt. Ht	Heading	% Black	Lodging
	<u>Lbs/A</u>	<u>Lbs/bu</u>	<u>%</u>	<u>Sed.</u>	<u>Color*</u>	<u>Cm</u>	<u>After 3/1</u>	<u>Point**</u>	<u>%***</u>
'Orita'	7533	62.2	14.9	48.5	7.32	93	31	18	8
Cortez	7609	63.5	14.3	41.4	7.21	94	33	8	3
Kofa	6406	62.2	15.0	51.3	7.41	93	26	23	23

* Higher numbers are more yellow and brighter. Color scores are calculations the readings of a Minolta Colorimeter

** 5 comparisons

*** 4 comparisons

Table 2. Quality characteristics of 'Orita' compared to Cortez in Western Plant Breeder's trials

<u>Trait</u>	<u>'Orita'</u>	<u>Cortez</u>
% Ash	1.8	1.76
Gms/1000K	57.3	51.7
% Semolina Extraction	65.8	65.3
Specks	35	50
Alveograph		
"W"	192	154
"P/L"	1.5	1.7
% Wet gluten	30.7	28.4
Semolina Color		
"b"	25.4	25.0
Pasta Analysis		
"b"	42.5	40.9
Color Score	9.7	9.2
Cooked Wt. Gms.	30.6	29.7
% Cooking Loss	7.4	7.9
Firmness	7.1	6.6

* Average of three locations. Analysis performed by the California Wheat Commission

REPRODUCE LOCALLY. Include form number and date on all reproductions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

EXHIBIT C
(Wheat)

**OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)**

NAME OF APPLICANT(S)

Western Plant Breeders, Inc.

FOR OFFICIAL USE ONLY

PVPO NUMBER

200200030

VARIETY NAME

Orita

TEMPORARY OR EXPERIMENTAL DESIGNATION

ADDRESS (Street and No. or RD No., City, State, and Zip Code)

8111 Timberline Drive
Bozeman, MT 59718

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. or) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used. Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

1=Common

2=Durum

3=Club

4=Other (SPECIFY):

2. VERNALIZATION:

1=Spring

2=Winter

3=Other (SPECIFY):

3. COLEOPTILE ANTHOCYANIN:

1=Absent

2=Present

4. JUVENILE PLANT GROWTH:

1=Prostrate

2=Semi-erect

3=Erect

5. PLANT COLOR (boot stage):

1 = Yellow-Green

2 = Green

3 = Blue-Green

6. FLAG LEAF (boot stage):

1 = Erect

2 = Recurved

1 = Not Twisted

2 = Twisted

7. EAR EMERGENCE:

Number of Days Earlier Than

Cortez

Number of Days Later Than

Nofa

"Orita"

200200030

8. ANTHOR COLOR:

☐

1 = Yellow

2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

☐cm Taller Than Kosa☐cm Shorter Than Cortez

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

☐

1 = Absent

2 = Present

B. WAXY BLOOM

☐

1 = Absent

2 = Present

C. HAIRINESS (last internode of rachis)

☐

1 = Absent

2 = Present

D. INTERNODE (SPECIFY NUMBER)

☐

1 = Hollow

2 = Semi-solid

3 = Solid

E. PEDUNCLE

☐1 = ^{Erect}
~~Absent~~2 = ^{Recurved}
~~Present~~3 = ^{semi-erect}☐

cm Length

11. HEAD (at Maturity):

A. DENSITY

☐

1 = Lax

2 = Middense

3 = Dense

B. SHAPE

☐

1 = Tapering

2 = Strap

3 = Clavate

4 = Other (SPECIFY):

C. CURVATURE

☐

1 = Erect

2 = Inclined

3 = Recurved

D. AWNEDNESS

☐

1 = Awnless

2 = Apically Awnletted

3 = Awnletted

4 = Awned

12. GLUMES (at Maturity):

A. COLOR

☐

1 = White

2 = Tan

3 = Other (SPECIFY):

C. BEAK

☐

1 = Obtuse

2 = Acute

3 = Acuminate

B. SHOULDER

☐

1 = Wanting

2 = Oblique

3 = Rounded

4 = Square

5 = Elevated

6 = Apiculate

D. LENGTH

☐

1 = Short

2 = Medium

(ca. 7mm)

(ca. 8mm)

3 = Long (ca. 9mm)

12. GLUMES (at Maturity) *Continued*:

E. WIDTH

- ☒ 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm)
3 = Wide (ca. 4mm)

200200030

13. SEED:

A. SHAPE

- ☒ 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

- ☐ 1 = Rounded 2 = Angular

E. Color

- ☒ 1 = White 2 = Amber 3 = Red
4 = OTHER (Specify)

F. TEXTURE

- ☐ 1 = Hard 2 = Soft

C. BRUSH

- ☐ 1 = Short 2 = Medium 3 = Long
☐ 1 = Not Collared 2 = Collared

D. CREASE

- ☐ 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

☐ 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

G. PHENOL REACTION (see instructions):

- ☐ 1 = Ivory 2 = Fawn
3 = Light Brown 4 = Dark Brown
5 = Black

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|---|--|
| <input type="checkbox"/> Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input type="checkbox"/> Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> Stripe Rust (<i>Puccinia striiformis</i>) | <input type="checkbox"/> Loose Smut (<i>Ustilago tritici</i>) |
| <input type="checkbox"/> Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input type="checkbox"/> Flag Smut (<i>Urocystis agropyri</i>) |
| <input type="checkbox"/> Halo Spot (<i>Selenophoma donacis</i>) | <input type="checkbox"/> Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input type="checkbox"/> <i>Septoria nodorum</i> (Glume Blotch) | <input type="checkbox"/> Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input type="checkbox"/> <i>Septoria avenae</i> (Speckled Leaf Disease) | <input type="checkbox"/> Karnal Bunt (<i>Tilletia indica</i>) |
| <input type="checkbox"/> <i>Septoria tritici</i> (Speckled Leaf Blotch) | <input type="checkbox"/> Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input type="checkbox"/> Scab (<i>Fusarium</i> spp.) | <input type="checkbox"/> "Snow Molds" |

14. Disease (Continued) (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|---|---|
| <input checked="" type="checkbox"/> 4 "Black Point" (Kernel Smudge) | <input type="checkbox"/> Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input type="checkbox"/> Barley Yellow Dwarf Virus (BYDV) | <input type="checkbox"/> Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input type="checkbox"/> Soilborne Mosaic Virus (SBMV) | <input type="checkbox"/> Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input type="checkbox"/> Wheat Yellow (Spindle Streak) Mosaic Virus | <input type="checkbox"/> Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input type="checkbox"/> Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|--|--|
| <input type="checkbox"/> Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Russian Aphid (<i>Diuraphis noxia</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Greenbug (<i>Schizaphis graminum</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Aphids | <input type="checkbox"/> Other (SPECIFY) |

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2428).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S)

Western Plant Breeders, Inc.

2. TEMPORARY DESIGNATION
OR EXPERIMENTAL NUMBER
YU895-89

3. VARIETY NAME

Orita

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)

8111 Timberline Drive
Bozeman, MT 59718

5. TELEPHONE (include area code)

406-587-1218

6. FAX (include area code)

406-586-8247

7. PVPO NUMBER

200200030

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain

☒ YES ☐

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country

☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use the reverse for extra space):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1996, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 328-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5994 (voice and TDD). USDA is an equal opportunity provider and employer.